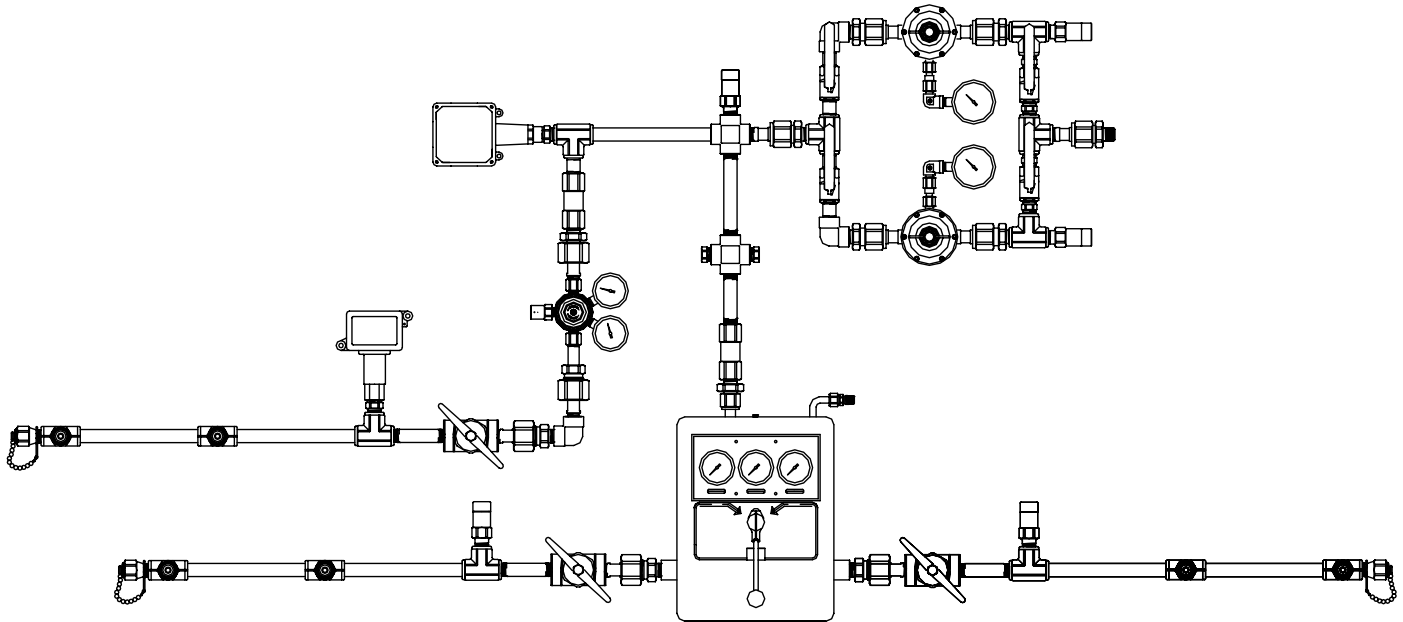




**Liquid x Liquid Product Specifications**



**Automatic Changeover Medical Gas Manifold**

The automatic changeover manifold is designed to provide a reliable uninterrupted supply of gas to a hospital or clinic's medical gas pipeline system. It is designed to meet NFPA 99 type 1 facility requirements.

**Manifold Design**

The automatic changeover manifold system consists of a manifold control with two supply bank headers, one service and one secondary supply to provide an uninterrupted supply of gas for the specific gas application. The manifold control includes the following components and features: inlet safety relief valves, green "system normal" and red "replace depleted cylinders" indicator lights, inlet pressure gauges, an economizer bypass check valve, and line pressure gauge. The control unit shall automatically switch to the secondary bank when the service bank is depleted. When the depleted cylinders are replaced with full cylinders, the operator should then turn the control knob to the opposite cylinder bank. This will make the partially used "Secondary bank" the "Service" supply and the newly installed cylinders will become the "Secondary" supply.

Supply banks consists of a header with 72" copper pigtails, individual spud check valve bushings, master shut-off valve, pressure relief valves and union connects for attachment to the control unit. Under normal operating conditions, the gas shall leave the liquid containers through the pigtails into the header bars. The spud check valve bushings shall include check valves to allow the replacement of depleted cylinders without gas pressure back-flow into the remaining depleted cylinders on that bank.

A separate power supply is furnished with the manifold to convert 120 VAC to 24 VAC output power and includes dry contacts for connecting the "Reserve in Use" alarm to the facility's master alarm panel(s). A circuit board in the power supply box provides remote alarm terminals for hookup to all remote alarms regardless of voltage (up to 3 amps 30 VDC or 2 amps 250 VAC). The power supply is housed in a NEMA 3R, enclosure with electrical requirements of 1.5 amp at 120 VAC, 1Ph, 60 Hz. The power supply is CSA approved.

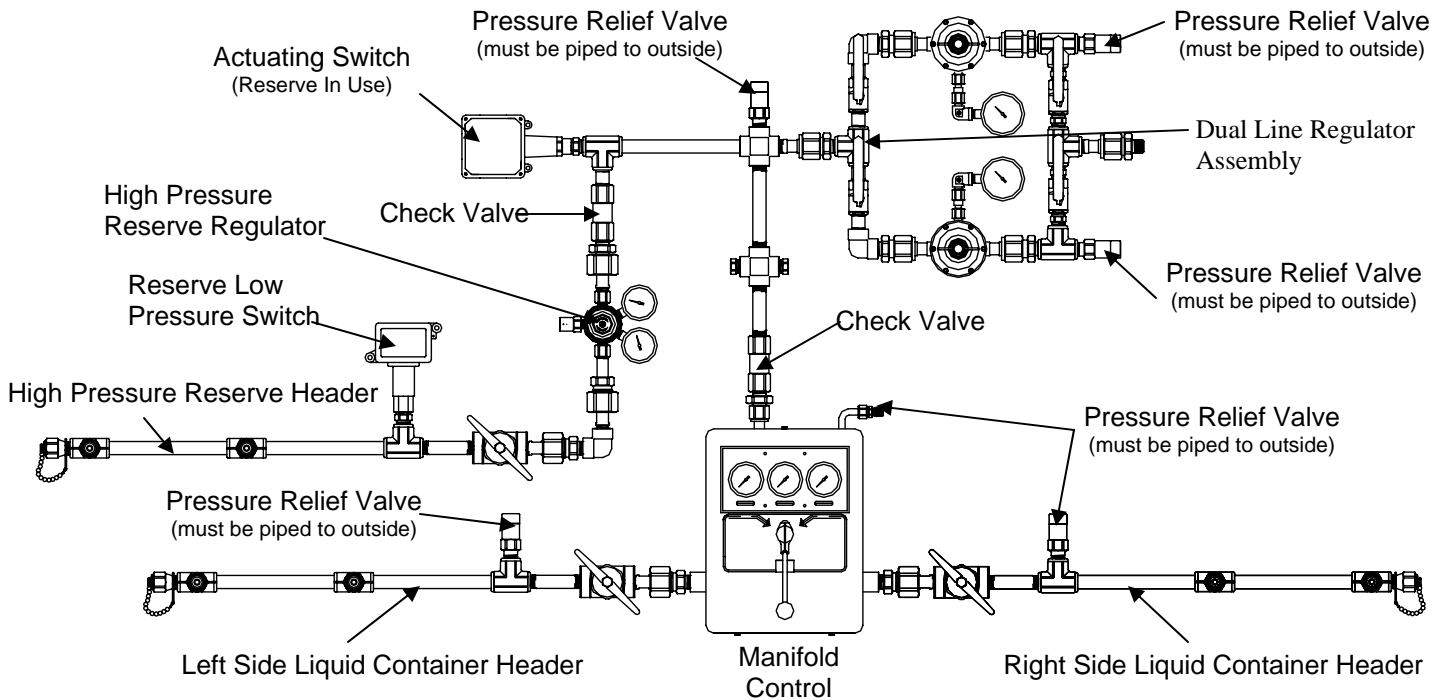
The MLC system includes the high pressure reserve manifold, dual line regulator assembly, reserve in use pressure switch, reserve low pressure switch, (2) high flow check valves and piping required to comply with NFPA-99 2005 installation requirements

**Installation Information**

The MLC manifold shall be installed in accordance with guidelines stated by the NFPA, CGA, and all applicable local codes. The carbon dioxide and nitrous oxide manifolds should not be placed in a location where the temperature will exceed 120°F (49°C) or fall below 20°F (-7°C). The manifolds for all the other gases should not be placed in a location where the temperature will exceed 120°F (49°C) or fall below 0°F (-18°C). A manifold placed in an open location should be protected against weather conditions. During the winter, protect the manifold from ice and snow. In summer, shade the manifold and cylinders from continuous exposure to direct rays of the sun.

# Engineering Specifications

## Automatic Changeover Medical Gas Manifold For Liquid Containers (Gas Withdrawal) Liquid X Liquid with high pressure reserve manifold



**Chart 2 for 2 x 2 system**

**Flow Characteristics**

Manifold system flow is limited by maximum flow capacity of liquid containers. Approximate maximum continuous flows of one liquid containers are shown in chart one. For a 2 x 2 system the approximate maximum continuous flows of two liquid containers are shown in chart two. For a 3 x 3 system the approximate maximum continuous flows of three containers are shown in chart 3.

Gas Type	Flow per Side
Oxygen	570 SCFH (269.1 LPM)
Nitrous Oxide	120 SCFH (56.6 LPM)
Carbon Dioxide	165 SCFH (77.9 LPM)
Nitrogen	570 SCFH (269.1 LPM)
Argon	570 SCFH (269.1 LPM)

**Chart 1 for 1 x 1 system**

Gas Type	Flow per Side
Oxygen	380 SCFH (179.4 LPM)
Nitrous Oxide	80 SCFH (37.8 LPM)
Carbon Dioxide	110 SCFH (51.9 LPM)
Nitrogen	380 SCFH (179.4 LPM)
Argon	380 SCFH (179.4 LPM)

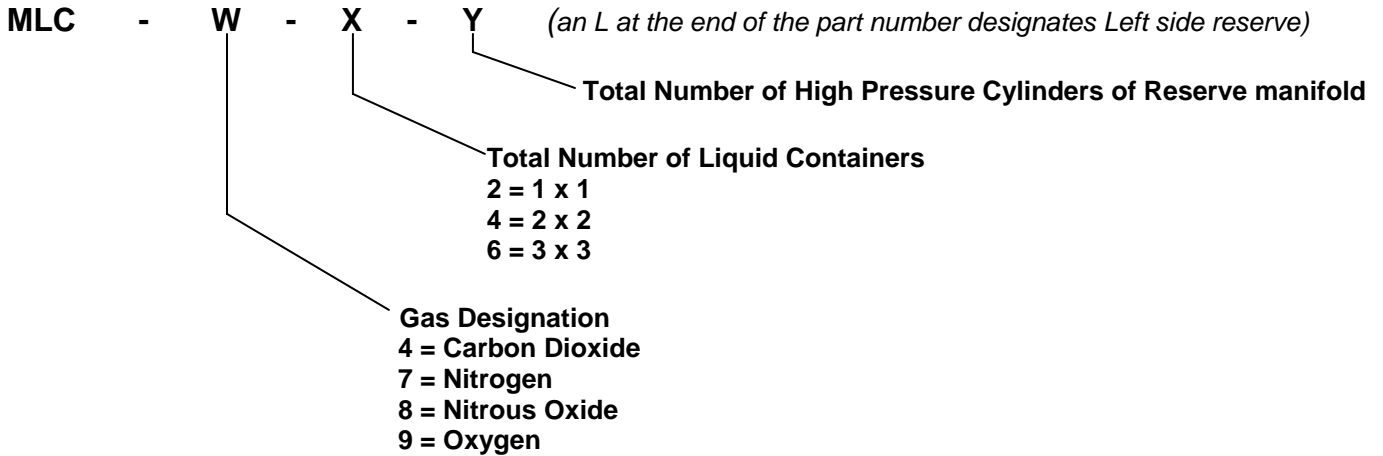
**Chart 3 for 3 x 3 system**

Gas Type	Flow per Side
Oxygen	665 SCFH (313.9 LPM)
Nitrous Oxide	220 SCFH (103.8 LPM)
Carbon Dioxide	192 SCFH (90.6 LPM)
Nitrogen	665 SCFH (313.9 LPM)
Argon	665 SCFH (313.9 LPM)

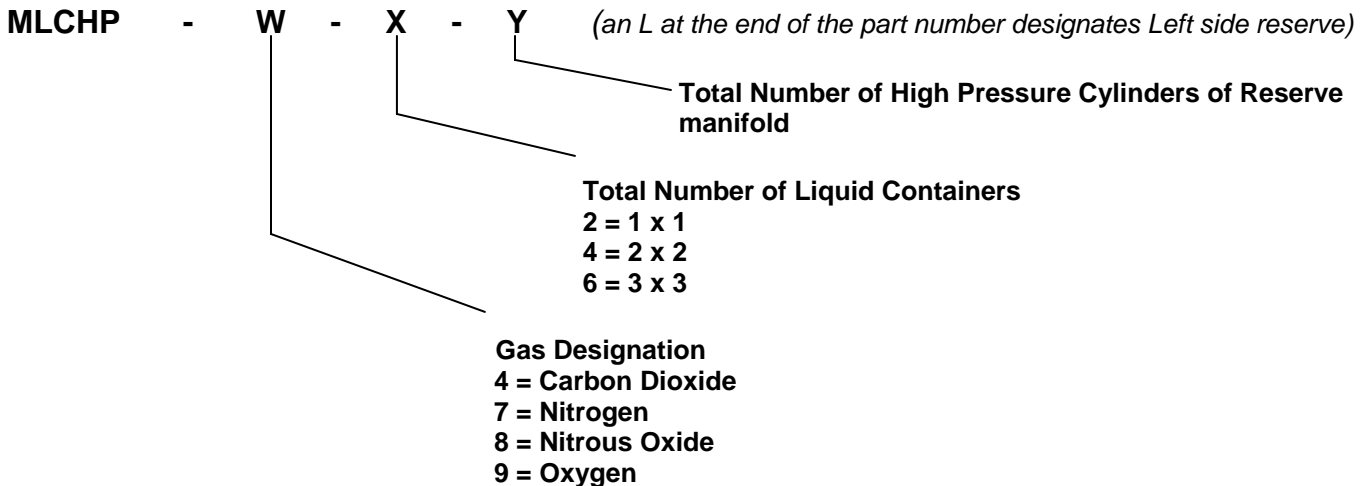
# MLC Series

Automatic Changeover Medical Gas Manifold  
For Liquid Containers (Gas Withdrawal)  
Liquid x Liquid with High Pressure Reserve  
Ordering Information

## Part Number Assembly for 55 psi service pressure



## Part Number Assembly for 180 psi service pressure



## Warranty

All Western manifolds are warranted against defects in materials and workmanship for the period of two years from the date of shipment. For complete information on the warranty please see the back cover of the Installation and Operations manual.

# Typical Set-up For all gases except Nitrogen

## Automatic Changeover Medical Gas Manifold For Liquid Containers (Gas Withdrawal) Liquid X Liquid with high pressure reserve manifold

